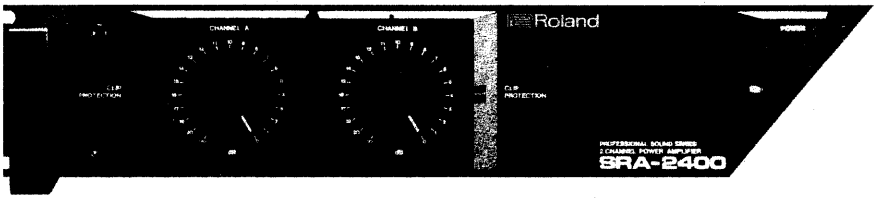
Roland

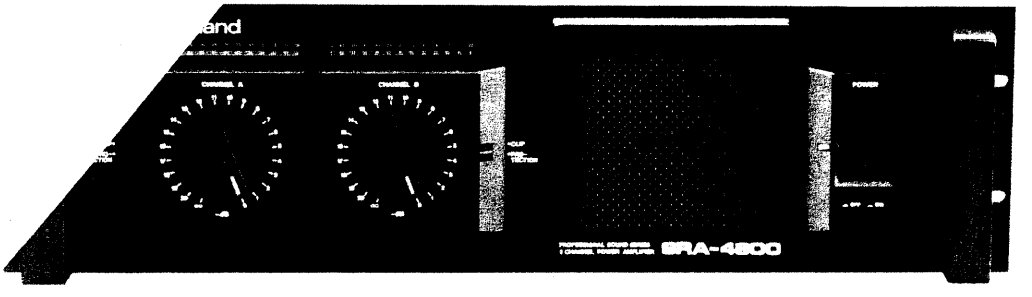
POWER AMPLIFIER

Owner's Manual

SRA-1200
SRA-2400



SRA-4800



Features

- Provided with both Balanced and Unbalanced Input Jacks, the SRA power amplifier allows versatile and professional use with various types of devices, from a musical instrument to a sound reinforcement.
- The SRA features muting circuit that works during power on/off operation.
- A Send Jack (standard phone jack) is featured for parallel connection. The SRA-4800 has a ballanced send jack (XLR), too.
- This amplifier perfectly works as a BTL amplifier.
- The Clip Indicator lights up, when the output waveform is clipped causing sound distortion and other sound troubles.
- Protection circuits are featured to protect the connected speaker from the damage that could be caused by overloading. The circuits also work to protect the amplifier and the speaker from the damage by rise of the units' temperatures or by the direct current. (SRA-2400, 4800)

Important Notes

- Operating the amplifier near a neon or fluorescent lamp may cause noise interference. If so, change the angle or position of the amplifier.
- Avoid using the amplifier in excessive heat or humidity or where it may be affected by direct sunlight or dust.
- Allow plenty of air space in front of and behind the amplifier for cooling. Also, if mounting more than one set of the SRA amplifier, use a fan for the same purpose.
- Please turn the SRA amplifier off when setting it up. Also, set the output volume of the connected unit to fairly low.
- Be sure the polarity of the speaker is correct.
- Please make sure that the voltage system in your country meets the appropriate power supply for this amplifier.
- This amplifier might get hot while operating, but there is no need to worry about.
- Please be sure that the amplifier is turned off when plugging or unplugging the power cord. Also, when unplugging, do not hold the cord but the plug.
- Use the speaker of appropriate rated input and impedance.

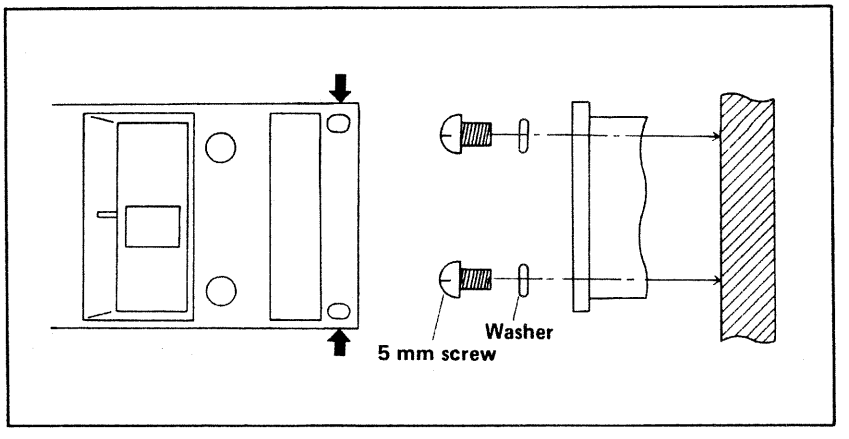
Speaker's Rated Input

impedance / amplifier	Stereo Setup		BTL Setup
	8 Ω	4 Ω	8 Ω
SRA-1200	more than 60 W	more than 85 W	more than 170 W
SRA-2400	more than 120 W	more than 170 W	more than 340 W
SRA-4800	more than 240 W	more than 400 W	more than 800 W

- If the amplifier is not to be used for a long period of time, disconnect the power cord from the socket.
- Use a soft cloth and clean only with a neutral detergent.
- Do not use solvents such as paint thinner.
- Do not allow anything magnetic (coin, wire, etc.) or liquid into the amplifier. Otherwise, various troubles will occur.
- If there is anything wrong with the amplifier, immediately turn it off, disconnect the cord, then contact your local Roland dealer.
- If opening the cover and touch inside the amplifier, you may get an electric shock.

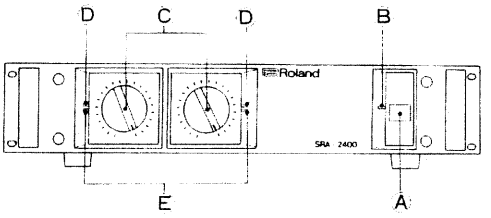
How to mount the SRA

The SRA Power Amplifier can be mounted in a standard 19" rack with 5mm screws as shown on the right.

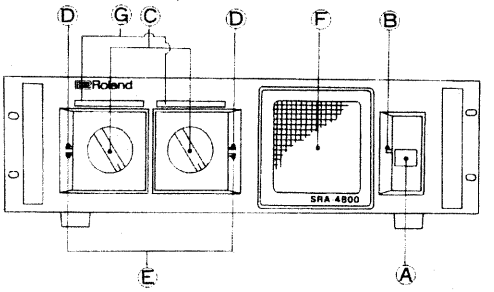


Panel Description

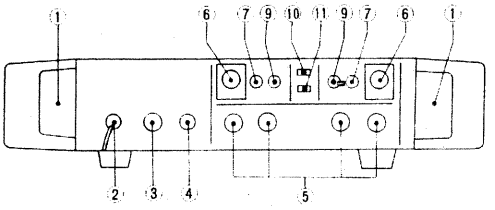
〈 SRA-2400 Front Panel 〉



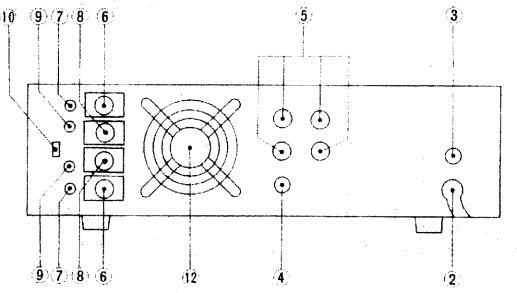
〈 SRA-4800 Front Panel 〉



〈 SRA-2400 Rear Panel 〉



〈 SRA-4800 Rear Panel 〉



The SRA-1200's front and rear panels are almost the same as the 2400's.

Front Panel

Ⓐ Power Switch

Ⓑ Pilot Lamp
This lights up when the amplifier is switched on.

Ⓒ Attenuators
To obtain desirable volume, adjust the Attenuator depending on the output level of the connected device. Usually, set it to OdB.
* In BTL setup, use the attenuator of Channel-A.

Ⓓ Clip Indicators
This indicator lights up when the output waveform is clipped, that is, when the input has been excessive.
* If the Clip Indicator lights up, adjust the attenuator of the amplifier or the volume knob of the connected unit.

Ⓔ Protection Indicators (SRA-2400, 4800)
When protection circuit is working, this indicator lights up. Then no sound is heard from the speaker.

Note) Protection circuits of the amplifier effectively work under inproper conditions, therefore, if the Protection Indicator lights, immediately switch the amplifier off and see if the connections are securely made, then switch it on again. If the indicator is still lighted, contact your local Roland dealer.
* The Protection Indicator will light for a few seconds when the amplifier is switched on, but there is nothing to worry about this.

Ⓕ Ventilator (SRA-4800)
This is for ventilation of air, so do not place anything in front of this. Clean the cover, if blocked with dirt.

Ⓖ Level Indicators (SRA-4800)
These are to see the output level. At 240W (8Ω loaded) output, all the indicators from −50dB to 0dB light up.

Rear Panel

① Cord Hook

② Power Cord

③ Fuse Holder

④ Ground Terminal
For common ground connection (or with other equipment).

⑤ Speaker Terminals

⑥ Balanced Input Connector
This is to be connected to the XLR Connector. If you are using a long connection cord, connect to this jack rather than to the Unbalanced Input, for better result.
* When both the Balanced and the Unbalanced Jacks are used, the Unbalanced Jack has priority.

⑦ Unbalanced Input Jack
This is to connect to a standard phone plug.

⑧ Balanced Send Connector (SRA-4800)
This is a connector which can be effectively used for parallel setup of more than one SRA amplifier.
* Through this connector, the signal fed to the Balanced Input Connector comes out without being changed. (Refer to Block Diagram.)

⑨ Unbalanced Send Jack
This is an output jack used for parallel setup of more than one SRA amplifier. (Refer to "Connection".)

* Through the Send Jack, the signal fed to the Balanced or Unbalanced Input comes out without being changed.

⑩ Mode Switch
This switch selects either Stereo or BTL mode.

* In BTL mode, use the CH-A. Also, note that the Speaker Terminal to be used is different in Stereo or BTL mode.

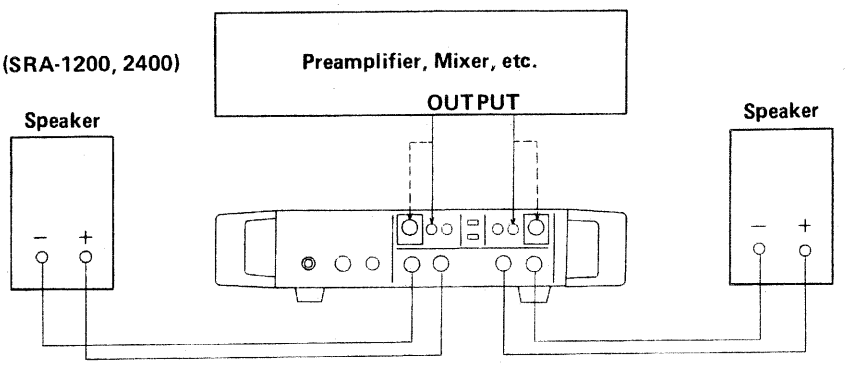
⑪ Level Selector Switch (SRA-1200, 2400)
This switch has input level of +4dBm or −10dBm. Set it to either position depending on the unit you use.

⑫ Fan (SRA-4800)
When the power is turned on, this starts going for cooling the unit.

Connection

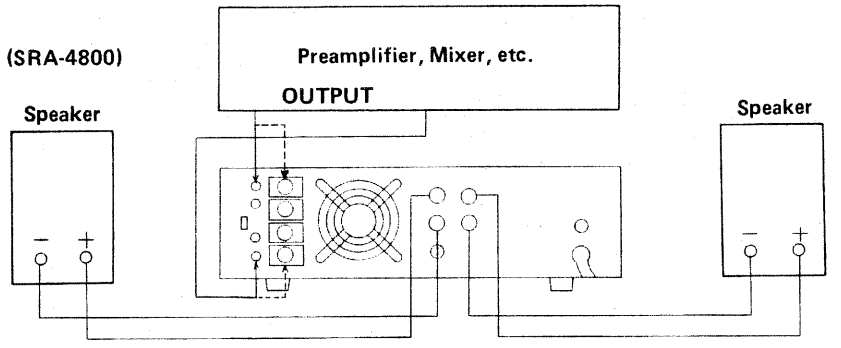
In Stereo Setup

(SRA-1200, 2400)

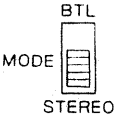


Mode Switch Position

(SRA-4800)



Mode Switch Position

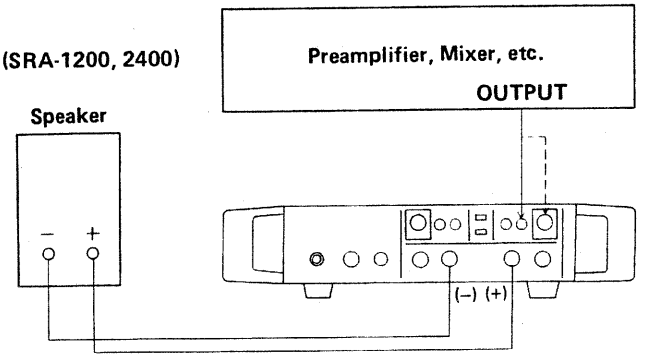


Amplifier	Output
SRA-1200	60W x 2
SRA-2400	120W x 2
SRA-4800	240W x 2

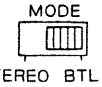
* Use the speakers of more than 4Ω.

In BTL Setup

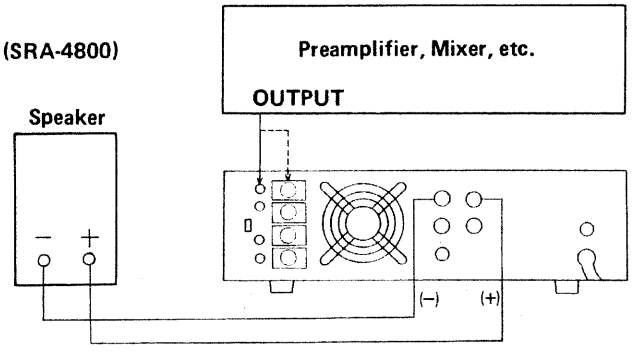
(SRA-1200, 2400)



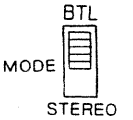
Mode Switch Position



(SRA-4800)



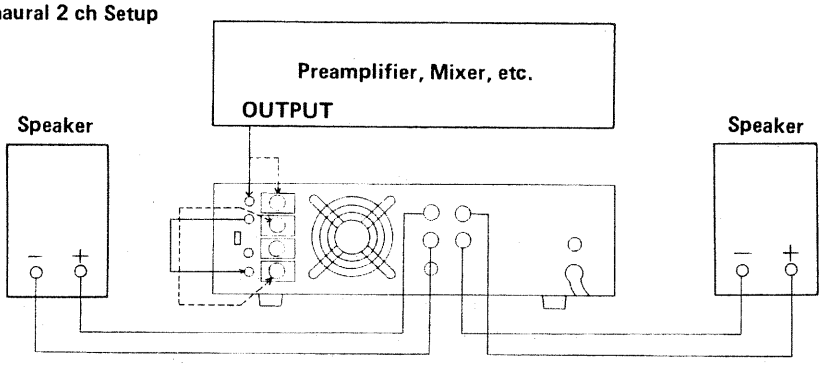
Mode Switch Position



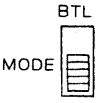
Amplifier	Output
SRA-1200	170W
SRA-2400	340W
SRA-4800	800W

* Use the speaker of more than 8Ω.

In Monaural 2 ch Setup



Mode Switch Position

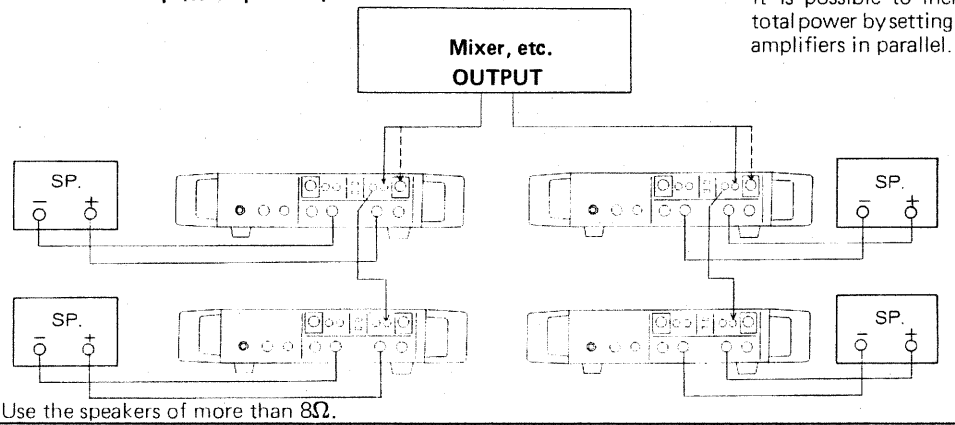


Amplifier	Output
SRA-1200	60W x 2
SRA-2400	120W x 2
SRA-4800	240W x 2

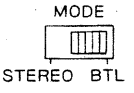
* Use the speakers of more than 4Ω.

Parallel BTL Setup (to emphasize power)

It is possible to increase the total power by setting up more amplifiers in parallel.



Mode Switch Position

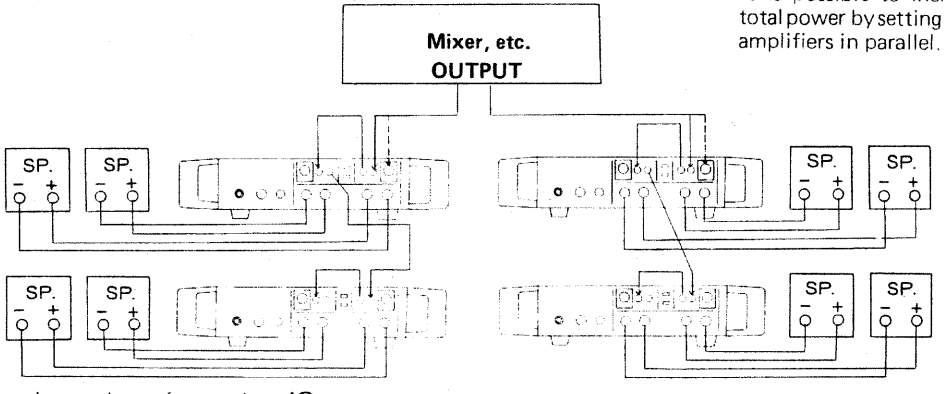


Amplifier	Output
SRA-1200	170W x 4
SRA-2400	340W x 4
SRA-4800	800W x 4

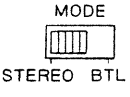
* Use the speakers of more than 8Ω.

Parallel Monaural Setup (to emphasize power)

It is possible to increase the total power by setting up more amplifiers in parallel.



Mode Switch Position



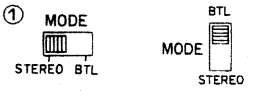
Amplifier	Output
SRA-1200	60W x 8
SRA-2400	120W x 8
SRA-4800	240W x 8

* Use the speakers of more than 4Ω.

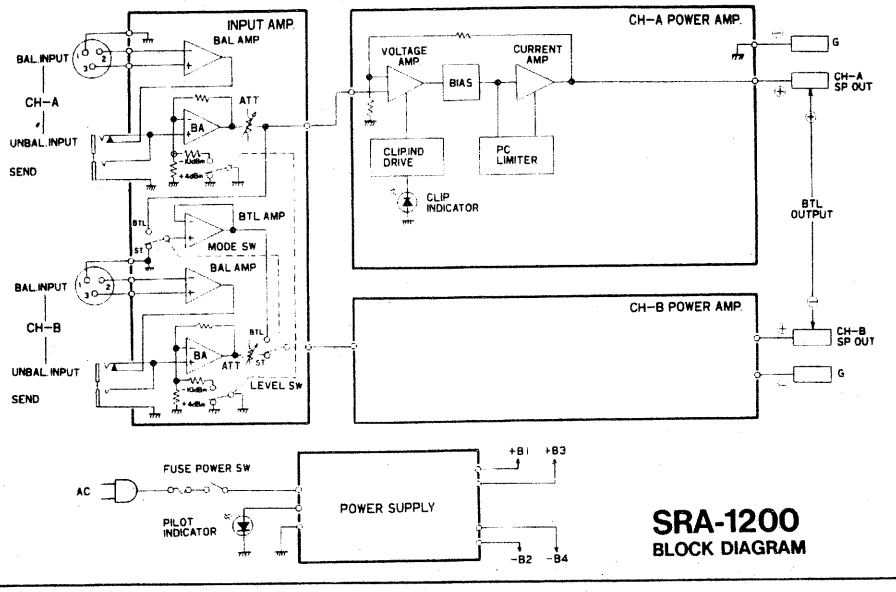
* The output power, shown in the lower right corner of each setup figure, is the example when 8Ω speakers are used.

Operation

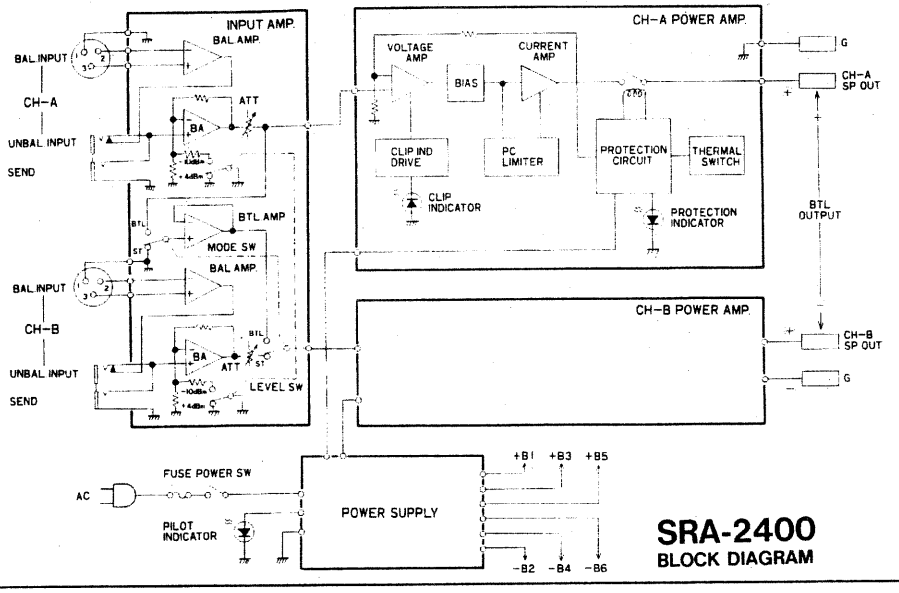
Make sure if setup has been correctly done. Specially, in stereo setup, be careful about the polarity of each speaker.

①		Set the Mode Switch to STEREO or BTL position.
②		Set the Level Selector Switch to +4dBm or −10dBm depending on the type of the amplifier you use. (SRA-1200, 2400)
③		Set the Attenuator to −∞ and the volume of the connected unit fairly low. Then turn the amplifier on.
④		Set the Attenuator to 0dB then turn up the volume of the connected unit to the level you like.
⑤		If the output volume of the connected unit happens to be too loud, adjust the attenuator of the amplifier.

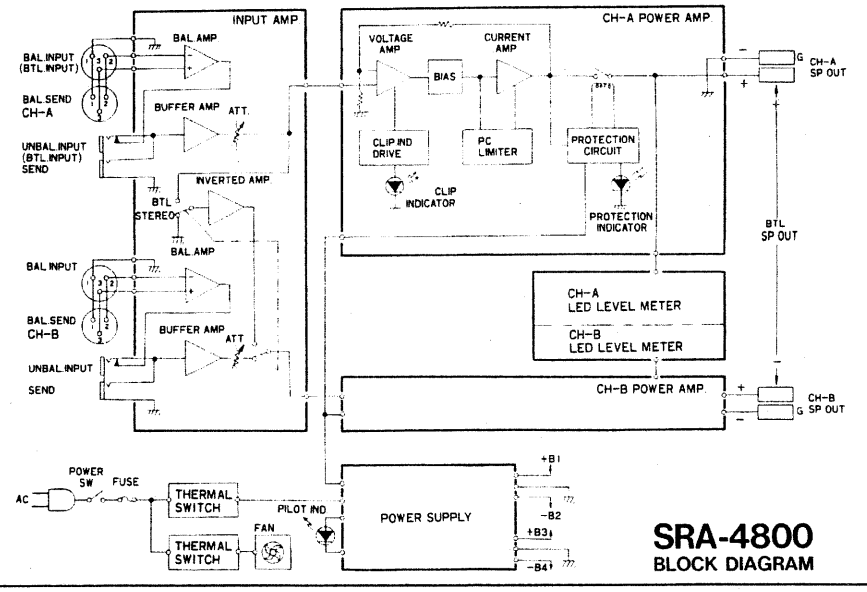
Block Diagram



SRA-1200
BLOCK DIAGRAM



SRA-2400
BLOCK DIAGRAM



SRA-4800
BLOCK DIAGRAM

Specifications

	SRA-1200	SRA-2400	SRA-4800
Rated Output			
Stereo, 8Ω, both channels loaded	60W x 2(20Hz to 20kHz, less than 0.1%)	120W x 2(20Hz to 20kHz, less than 0.1%)	240W x 2(20Hz to 20kHz, less than 0.1%)
Stereo, 4Ω, both channels loaded	85W x 2(20Hz to 20kHz, less than 0.1%)	170W x 2(20Hz to 20kHz, less than 0.1%)	400W x 2(20Hz to 20kHz, less than 0.1%)
BTL, 8Ω loaded	170W(20Hz to 20kHz, less than 0.1%)	340W (20Hz to 20kHz, less than 0.1%)	800W(20Hz to 20kHz, less than 0.1%)
Load Impedance			
Stereo Mode	more than 4Ω	more than 4Ω	more than 4Ω
BTL Mode	more than 8Ω	more than 8Ω	more than 8Ω
Frequency Response	10Hz to 40kHz (0 dB, 1W/8Ω)	10Hz to 60kHz (0 dB, 1W/8Ω)	10Hz to 60kHz (0 dB, 1W/8Ω)
Power Band Width			
Stereo, 8Ω, both channels loaded	15Hz to 30kHz (60W, less than 0.3%)	15Hz to 40kHz (120W, less than 0.3%)	15Hz to 40kHz (240W, less than 0.3%)
BTL, 8Ω, both channels loaded	15Hz to 25kHz (170W, less than 0.3%)	15Hz to 30kHz (340W, less than 0.3%)	15Hz to 30kHz (800W, less than 0.3%)
THD			
Stereo, 8Ω, both channels loaded	less than 0.05%(60W, 8Ω, 20Hz to 20kHz) less than 0.1%(60W, 8Ω, 20Hz to 20kHz)	less than 0.01%(120W, 8Ω, 1kHz) less than 0.1%(120W, 8Ω, 20Hz to 20kHz)	less than 0.01%(240W, 8Ω, 1kHz) less than 0.1%(240W, 8Ω, 20Hz to 20kHz)
BTL, 8Ω loaded	less than 0.06% (170W, 8Ω, 1kHz) less than 0.1%(170W, 8Ω, 20Hz to 20kHz)	less than 0.02% (340W, 8Ω, 1kHz) less than 0.1%(340W, 8Ω, 20Hz to 20kHz)	less than 0.02% (800W, 8Ω, 1kHz) less than 0.1%(800W, 8Ω, 20Hz to 20kHz)
Damping Factor	more than 80	more than 100	more than 100
S/N Ratio	more than 110dB(input shorted, IHF-A)	more than 110dB(input shorted, IHF-A)	more than 110dB(input shorted, IHF-A)
Channel Separation	more than 80dB (1kHz, 8Ω loaded)	more than 80dB (1kHz, 8Ω loaded)	more than 80dB (1kHz, 8Ω loaded)
Through Rate			
Stereo, 8Ω loaded	more than 10V/μsec	more than 30V/μsec	more than 45V/μsec
Input Level			
Balanced	+4 dBm	+4 dBm	+4 dBm
Unbalanced	+4 dBm/−10 dBm (selectable)	+4 dBm/−10 dBm (selectable)	+4 dBm
Maximum Input	+24dBm	+24dBm	+24 dBm
Input Impedance			
Balanced	20kΩ	20kΩ	20kΩ
Unbalanced	50kΩ	50kΩ	50kΩ
Jacks			
Balanced Input	2 (L, R) XLR Connectors	2 (L, R) XLR Connectors	2 (L, R) XLR Connectors
Unbalanced Input	2 (L, R) Standard Phone Jacks	2 (L, R) Standard Phone Jacks	2 (L, R) Standard Phone Jacks
Speaker Terminals	2 sets (L,R) Binding Post	2 sets (L, R) Binding Post	2 sets (L, R) Binding Post
Balanced Send	—	—	2 (L, R) XLR Connectors
Unbalanced Send	2 (L, R) Standard Phone Jacks	2 (L, R) Standard Phone Jacks	2 (L, R) Standard Phone Jacks
Earth Terminal	1	1	1
Switches and Controls			
Mode Selector Switch	1 (STEREO, BTL)	1 (STEREO, BTL)	1 (STEREO, BTL)
Level Selector Switch	1 (+4dBm, −10dBm)	1 (+4dBm, −10dBm)	—
Power Switch	1	1	1
Attenuator	2 (L, R)	2 (L, R)	2 (L, R)
Indicators			
Clip Indicator	2 (L, R)	2 (L, R)	2 (L, R)
Protection Indicator	—	2 (L, R)	2 (L, R)
Pilot Lamp	1	1	1
Level Indicators	—	—	2 (L, R)
Power Supply	120, 220, or 240V (50/60Hz)	120, 220 or 240V (50/60Hz)	120, 220 or 240V (50/60Hz)
Power Consumption	(This is shown on the name plate.)	(This is shown on the name plate.)	(This is shown on the name plate.)
Dimensions	480(W) x 104(H) x 377(D) mm 19(W) x 4-1/8(H) x 14-13/16(D) in 19" (EIA 2U) Rack Mount Type	480(W) x 104(H) x 444(D) mm 19(W) x 4-1/8(H) x 17-1/2(D) in 19" (EIA 2U) Rack Mount Type	480(W) x 147(H) x 456(D) mm 19(W) x 5-3/4(H) x 17-7/8(D) in 19"(EIA 3U) Rack Mount Type
Weight	10kg/22 lb. 1 oz.	14.7kg/32 lb. 7 oz.	24kg/52 lb. 15 oz.

Roland®

RUS10072

UPC RUS10072

10981

Roland Corporation